

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 9. (canceled)

10. (currently amended) A storage control subsystem that can communicably connect to a host, comprising:

a disk portion that stores data sent by the host;

a channel control unit that constitutes an interface with the host;

a disk control unit that is connected to the disk portion and constitutes an interface with the disk portion;

a cache memory unit that temporarily stores data that is sent and received to and from the channel control unit and the disk control unit; and

a control memory that stores information on the constitution of a plurality of logical volumes formed according to disk allocation,

wherein the control memory comprises:

online information indicating whether a logical volume in the disk portion is online, and

information on a path between the online logical volume and the host to which the online logical volume is connected~~The storage control subsystem according to claim 1, wherein:~~

wherein the storage control subsystem receives a referral request for the online information and the ~~path~~ information of the path from the host via another storage control subsystem; subsystem, and,

wherein when information on the ~~path~~ path cancellation with respect to the online logical volume is received from the host via the ~~other~~ another storage control subsystem, the path cancellation with respect to the ~~designated logical volume~~ the online logical volume that is designated by the path cancellation is executed.

11. (currently amended) The storage control subsystem according to claim 10, wherein, when the path cancellation information is received from a host connected via the ~~other~~ another storage control subsystem, the ~~control memory disk control unit~~ functions so that the path cancellation ~~is not~~ is executed.

12. (currently amended) A storage control subsystem connected to one or more host devices, comprising:

a channel control unit that controls communications with the connected one or more host device(s) devices;

a plurality of logical volumes ~~prepared~~ formed on one or more physical storage devices;

a disk control unit that controls the plurality of logical volumes; and

~~control a control~~ memory in which, for each of the plurality of logical volumes, volume discrimination information, ON/OFF information indicating whether an online state exists, and, in the event of an online state, path group information with regard to which host ~~device(s) device~~ the subvolume a subvolume is connected to, are recorded, ~~wherein:~~

wherein as a result of receiving a specific command from a certain host device, the channel control unit performs, before a target regular volume and target subvolume among the plurality of volumes are paired and data in the target regular volume is copied to the target subvolume, a first examination of whether the target subvolume is in an online state based ~~on the basis of the~~ ON/OFF information on the target subvolume, and, when, as a result of this first examination, the target subvolume is known to be in an online state, the channel control unit performs a second examination with regard to which separate host device the target subvolume is connected to based ~~on the basis of~~ path group information on the target ~~subvolume; subvolume, and~~

wherein the result of the second examination is sent from the channel control unit to the certain host device.

13. (currently amended) The storage control subsystem according to claim 12, ~~wherein:~~ wherein a plurality of volume groups containing two or more logical volumes exist in the plurality of logical ~~volumes; volumes,~~

wherein volume-group discrimination information for each of the plurality of volume groups and two or more volume discrimination information items corresponding with two or more logical volumes contained in these volume groups are recorded in the control ~~memory;~~memory.

wherein the storage control subsystem performs a first examination of whether the two or more subvolumes are in an online state based on two or more ON/OFF information items corresponding with two or more subvolumes in a target subvolume group containing the target ~~subvolume;~~ and, subvolume, and

wherein when it is clear as a result of the first examination that the target subvolume among the two or more subvolumes is in an online state, the storage control subsystem performs the second examination with respect to the target subvolume and sends the result of the second examination to the certain host device.

14. (currently amended) The storage control subsystem according to claim 13, ~~wherein;~~wherein a first examination command that includes volume-group discrimination information on the target subvolume group is received from the certain host device, and, in response to the first examination command, the first examination is performed and the result of the first examination is sent to the certain host ~~device;~~device, and

wherein a second examination command, which includes volume discrimination information on the target subvolume that has been judged as being in

an online state based on the first examination result, is received from the certain host device, and, in response to the second examination command, the second examination is performed and the result of the second examination is sent to the certain host device.

15. (currently amended) The storage control subsystem according to claim 13, ~~wherein:~~wherein the ON/OFF information is one-bit information expressed by 1 ~~or 0;~~or 0.

wherein two or more one-bit information items corresponding with two or more subvolumes included in the target subvolume are included in the first examination ~~result;~~result.

wherein the certain host device stores, for each of the plurality of volume groups, a volume-group discrimination number, and a volume management table in which two or more volume discrimination numbers corresponding with two or more logical volumes contained in the volume group are recorded in this number ~~order;~~order, and

wherein when an input of a volume discrimination number for the one or more target subvolumes is received from the user, the first examination command that includes the volume discrimination number of the target subvolume group containing the target subvolume is generated and sent to the storage control subsystem, and, when the first examination result is received in response to this first examination command, it is judged whether the one or more target subvolumes is online on the

basis of the two or more one-bit information items included in the first examination result, the one or more volume discrimination numbers inputted by the user, and the volume management table; and, when it is judged that at least one target subvolume is in the online state, the second examination command is generated for the target subvolume and then sent to the storage control subsystem.

16. (currently amended) The storage control subsystem according to claim 12, wherein, when the certain host device issues a copy command after volume discrimination information for the target regular volume and volume discrimination information on the target subvolume have been input by the user and/or issues a recopy command for copying once the paired state of the target regular volume and target subvolume has been cancelled and the paired state then ~~reformed~~:reformed,

wherein an examination command that includes volume discrimination information on the target subvolume is generated and sent to the storage control ~~subsystem~~:subsystem, and

wherein the first and second examinations are performed before the target regular volume and the target subvolume are paired and data in the target regular volume is copied to the target subvolume.

17. (currently amended) The storage control subsystem according to claim 12, ~~wherein~~:wherein the certain host device receives a copy instruction from the user and issues a copy command in response to the copy instruction after volume

discrimination information for the target regular volume and volume discrimination information on the target subvolume have been inputted by the user and/or issues a recopy command for copying once the paired state of the target regular volume and target subvolume has been cancelled and the paired state then ~~reformed~~; reformed, and

wherein when the storage control subsystem receives the copy command or recopy command, before executing copy processing on the basis of the command, the storage control subsystem performs a first examination by referencing ON/OFF information corresponding with discrimination information on the target subvolume that is included in this command, executing copy processing based on the basis of the copy command or recopy command upon judging that the target subvolume is in the offline state as a result of the first examination but, on the other hand, executing the second examination upon judging that the target subvolume is in the online state as a result of this first examination.

18. (original) The storage control subsystem according to claim 12, wherein, instead of or in addition to performing the second examination, the storage control subsystem switches the target subvolume from the online state to the offline state when it is judged that the target subvolume is in the online state as a result of the first examination.

19. (original) The storage control subsystem according to claim 18, wherein the storage control subsystem switches the target subvolume from the online state to the offline state in at least one of cases (1) to (3) below:

(1) when a setting cancellation command that includes discrimination information on the target subvolume is received from the certain host device after the second examination result is sent to the certain host device;

(2) when path group information corresponding with the target subvolume is referenced, an inquiry is made with regard to whether the connection thereof with all or part of one or more separate host devices specified based on the path group information may be cancelled, and a reply relaying that the connection may be cancelled is then obtained in response to this inquiry; and

(3) when a predetermined time has elapsed after judging that the target subvolume is in an online state.

20. (currently amended) The storage control subsystem according to claim 12, wherein, when a separate storage control subsystem is connected to the storage control subsystem, the target regular volume exists in the storage control subsystem and the target subvolume exists in the separate storage control subsystem;
subsystem:subsystem.

wherein the separate storage control subsystem references the control memory in the systemstorage control subsystem, performs the first and second

examinations, and sends the results of the first and second examinations to the certain host device.

21. (new) A storage control subsystem connected to one or more host devices, comprising:

a control unit;

a plurality of logical volumes formed on one or more physical storage devices;

and

a control memory in which, for each of the plurality of logical volumes, ON/OFF information indicating whether an online state exists, and, in the event of an online state, path group information with regard to which host device(s) the subvolume is connected to, are recorded,

wherein, as a result of receiving a specific command from a certain host device, the control unit performs, before a target regular volume and target subvolume among the plurality of volumes are paired and data in the target regular volume is copied to the target subvolume, a first examination of whether the target subvolume is in an online state on the basis of the ON/OFF information on the target subvolume, and, when, as a result of this first examination, the target subvolume is known to be in an online state, the channel control unit performs a second examination with regard to which separate host device the target subvolume is connected to based on path group information on the target subvolume, and

wherein the result of the second examination is sent from the control unit to the certain host device.

22. (new) A storage control subsystem that can communicably connect to one or more host devices, comprising:

a control unit;

a plurality of logical volumes formed on one or more physical storage devices;

and

a control memory in which, for each of the plurality of logical volumes, ON/OFF information indicating whether an online state exists, and, in the event of an online state, path group information with regard to which host device(s) the subvolume is connected to, are recorded,

wherein the control unit performs, before one or more target regular volumes and one or more target subvolumes among the plurality of logical volumes are respectively paired and data in the one or more target regular volumes is respectively copied to the one or more target subvolumes, or when instruction of copying data from the one or more target regular volumes to the one or more target subvolumes is received, an examination of whether the one or more target subvolumes are in an online state on the basis of the ON/OFF information on each of the one or more target subvolumes, when, as a result of this examination, the target subvolume is known to be in an online state in the one or more target subvolumes, the control unit performs the following operation (1) or (2):

(1) compulsorily changing the state of the target subvolume from online to offline,

(2) displaying the path group information of the target subvolume, or transmitting the path group information to the host device connecting the target subvolume, thereafter, when receiving an instruction of a path cancellation to the target subvolume, changing the state of the target subvolume from online to offline,

wherein when all the target subvolumes are in an offline state, the control unit copies data from the one or more target regular volumes to the one or more target subvolumes, respectively.